

**PETITION FOR GRANT OF LOCATION FOR
NEW UTILITY POLE**

City of Northampton, Massachusetts
Department of Public Works

RESPECTFULLY REPRESENTS MOBILITIE, LLC, (hereinafter known as the PETITIONER), that it desires to construct upon, along, under or across the public way(s) of the City of Northampton, wires, cables, poles, piers, abutments, conduits or fixtures.

WHEREFORE, the PETITIONER prays that, after due notice and public hearing as provided by law, the City of Northampton may by Order grant to the PETITIONER permission to construct, in accordance with plan(s), the following:

Petitioner proposes to install backhaul transport equipment on a proposed utility pole in the right of way located at the intersection of ELM ST & HENSHAW AVE with electricity connection (Lat/Long: 42.320068, -72.639259). Location approximately as shown on plan attached as Exhibit "A."

The PETITIONER understands and agrees that:

1. PETITIONER shall locate and complete all work as specified and approved by the City.
2. PETITIONER shall comply with the requirements of existing ordinances and such as may hereafter be adopted governing the construction.
3. PETITIONER shall perform all work to the requirements and satisfaction of the Department of Public Works or other such officer(s) as may be hereafter appointed by the City.

For the PETITIONER:

MOBILITIE, LLC

By: 
Joseph Hendricks, NRE Specialist

Date: 8/22/2016

ORDER FOR GRANT OF LOCATION FOR
NEW UTILITY POLE

City of Northampton, Massachusetts
Department of Public Works

WHEREAS, MOBILITIE, LLC, (hereinafter known as the PETITIONER) has petitioned for permission to construct upon, along, under or across the public way(s) of the City of Northampton, the following:

Petitioner proposes to install backhaul transport equipment on a proposed utility pole in the right of way located at the intersection of ELM ST & HENSHAW AVE with electricity connection (Lat/Long: 42.320068, -72.639259). Location approximately as shown on plan attached as Exhibit "A."

AND WHEREAS, notice has been given and a hearing held on said petition as provided by law; NOW THEREFORE BE IT ORDERED that the PETITIONER be and hereby is granted permission by the City of Northampton to complete the construction described above, all in accordance with the following conditions:

- 1. PETITIONER shall locate and complete all work as shown by plan(s) specified and approved by the City, and as may have been amended by the City.
- 2. PETITIONER shall comply with the requirements of existing ordinances and such as may hereafter be adopted governing the construction.
- 3. PETITIONER shall perform all work to the requirements and satisfaction of the Department of Public Works or other such officer(s) as may be hereafter appointed by the City.

Approved by the City of Northampton on the _____ day of _____, 20____,

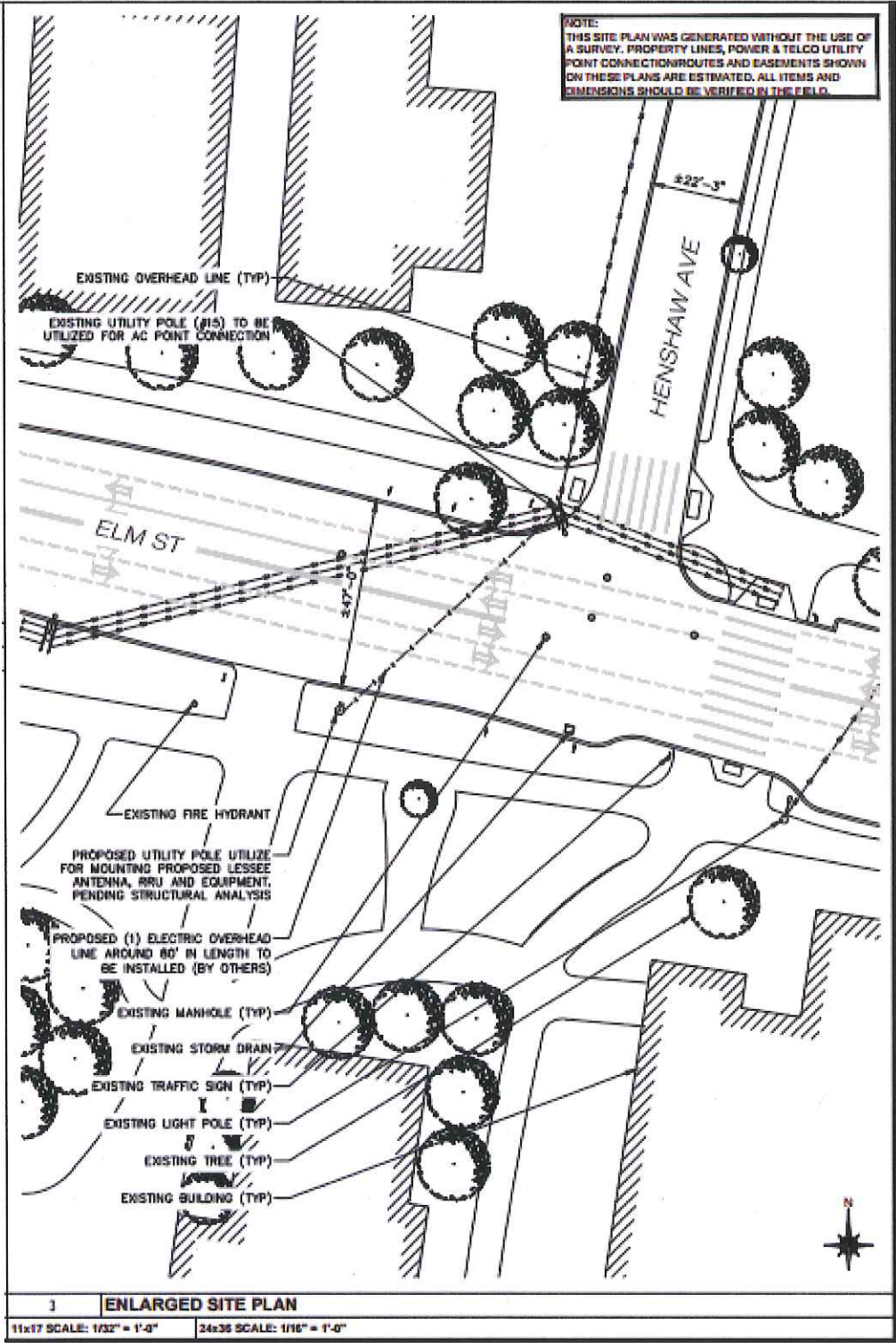
A True Record. Attest: _____ Date: _____
City Clerk

Certificate

I hereby certify that the foregoing Order was adopted by the City of Northampton on the _____ day of _____, 20____. Received and entered in the records of Location Orders of the City of Northampton, in Book _____, Page _____.

Certified. Attest: _____ Date: _____
City Clerk

Exhibit A
Mobilitie # CT90XS543B_9MAB000091
ELM ST & HENSHAW AVE, Northampton, MA
(Lat/Long: 42.320068, -72.639259)



SITE ID: 9MAB000091 / CT90XS543B
ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060



Know what's below.
Call before you dig.

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

SITE INFORMATION

PROPERTY OWNER: PUBLIC RIGHT-OF-WAY
ADDRESS/CROSS STREET: ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060
APPLICANT: MOBILITIE, LLC
APPLICANT ADDRESS: 925B PEACHTREE STREET NE, SUITE 710
ATLANTA, GA 30309
PHONE: (312) 638-5400
LATITUDE: N 42° 19' 12.2" (42.320068)
LONGITUDE: W 72° 38' 21.3" (-72.639259)
LAT/LONG TYPE: NAD 83
GROUND ELEVATION: ±194' AMSL
COUNTY: HAMPSHIRE COUNTY
JURISDICTION: NORTHAMPTON

BEFORE SCALING:

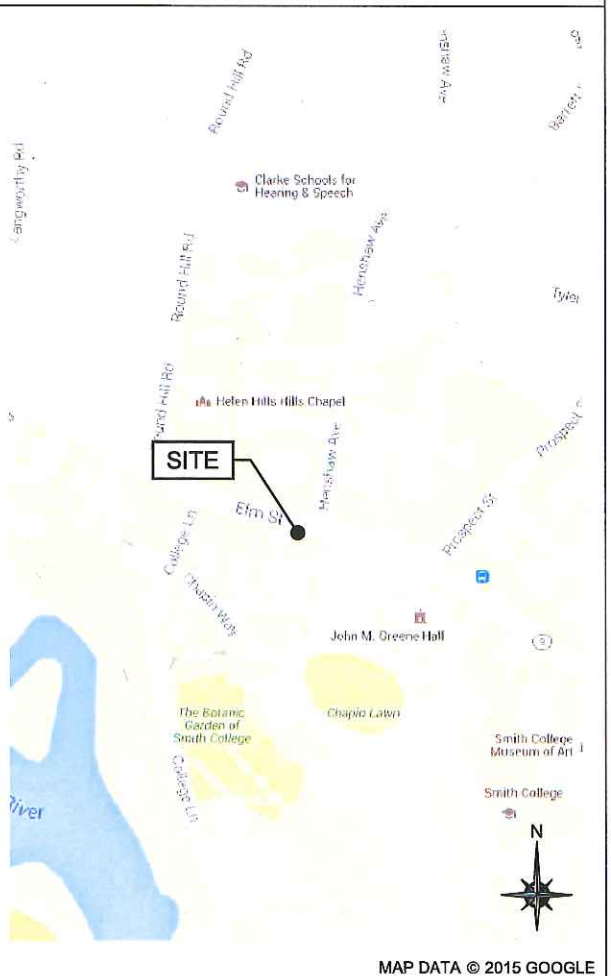
CONTRACTORS SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & FIELD CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

LOCATION MAPS

VICINITY MAP



REGIONAL MAP



PROJECT DESCRIPTION

END USER PROPOSES TO INSTALL EQUIPMENT ON PROPOSED UTILITY POLE WITHIN AN EXISTING RIGHT-OF-WAY. THE SCOPE WILL CONSIST OF THE FOLLOWING:

- INSTALL PROPOSED BACKHAUL TRANSPORT ON PROPOSED UTILITY POLE

CODES

2015 INTERNATIONAL BUILDING CODE
2014 NATIONAL ELECTRICAL CODE

DRAWING INDEX

SHEET NO:	SHEET TITLE
0.0	TITLE SHEET
1.0	SITE PLAN & EXHIBIT PHOTO
2.0	POLE ELEVATION
2.1	POLE ELEVATION
3.0	ANTENNA & EQUIPMENT MOUNTING DETAILS
3.1	ANTENNA & EQUIPMENT SPECIFICATIONS
4.0	ELECTRICAL DETAILS
5.0	GROUNDING DETAILS
6.0	EQUIPMENT & SAFETY LABELS
6.1	TRAFFIC CONTROL PLAN
6.2	TRAFFIC CONTROL PLAN
6.3	TRAFFIC CONTROL PLAN
GN-1	GENERAL NOTES
GN-2	GENERAL NOTES

THESE DRAWINGS ARE BASED ON SITE INFORMATION PROVIDED TO KMB. KMB HAS NOT PERFORMED FIELD VERIFICATION.

ARCHITECT/ENGINEER

KMB DESIGN GROUP, LLC
1800 ROUTE 34, SUITE 209
WALL, NJ 07719
FOR QUESTIONS EMAIL: designteam@kmbdg.com
TEL: (732) 280-5623
FAX: (732) 280-3980
www.KMBDG.com

mobilitie

PROJECT NO: 9MAB000091
DRAWN BY: RC
CHECKED BY: SJB

KMB DESIGN GROUP, LLC

Stephen A. Bray
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16
IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

CT90XS543B

ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060

UTILITY POLE

SHEET TITLE

TITLE SHEET

SHEET NUMBER

0.0



— PROPOSED UTILITY
POLE

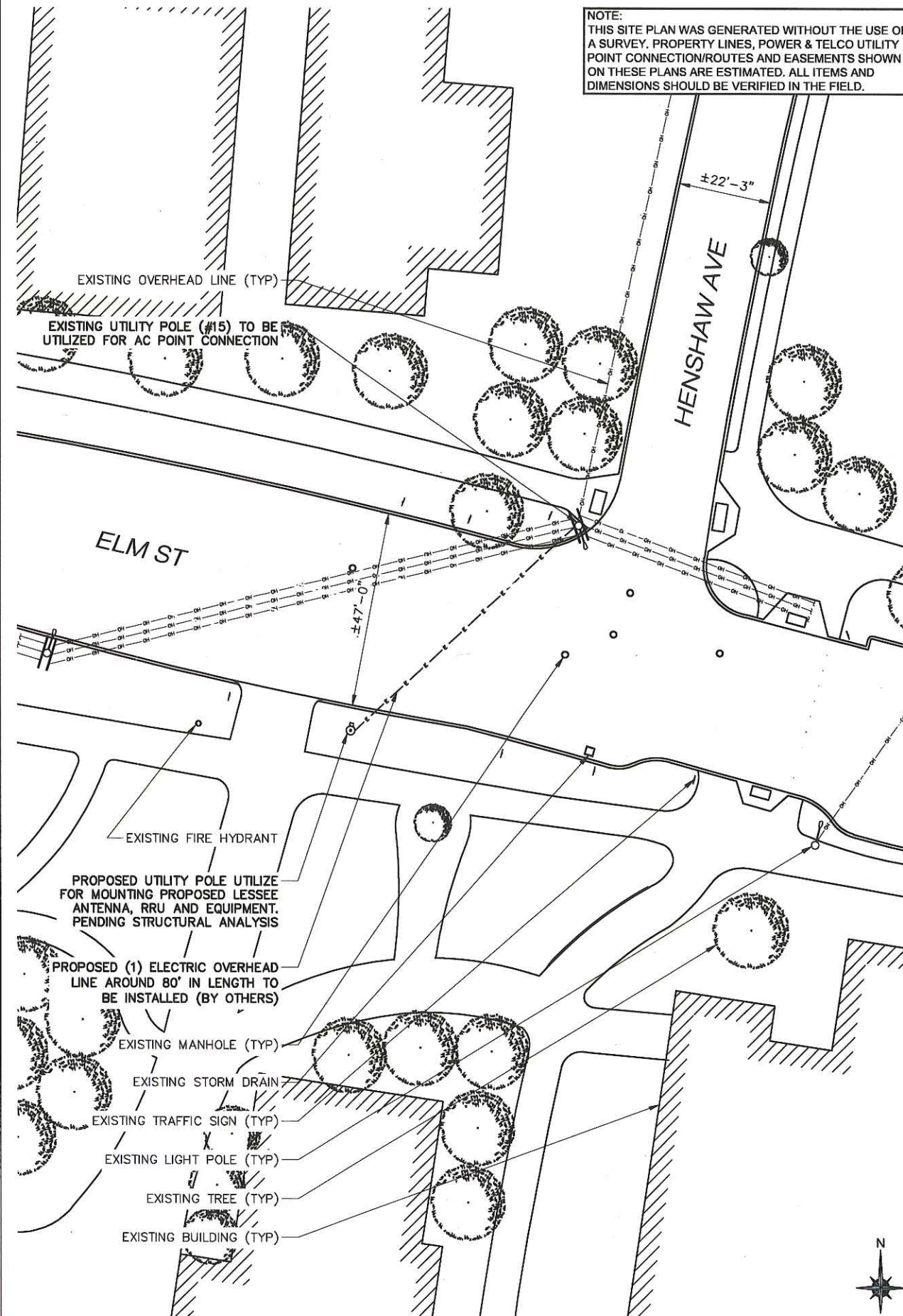
1	EXHIBIT PHOTO
---	---------------

SCALE: NTS



2	AERIAL SITE LOCATION
---	-----------------------------

SCALE: NTS



NOTE:
THIS SITE PLAN WAS GENERATED WITHOUT THE USE OF A SURVEY. PROPERTY LINES, POWER & TELCO UTILITY POINT CONNECTION/ROUTES AND EASEMENTS SHOWN ON THESE PLANS ARE ESTIMATED. ALL ITEMS AND DIMENSIONS SHOULD BE VERIFIED IN THE FIELD.

3	ENLARGED SITE PLAN
---	--------------------

11x17 SCALE: 1/32" = 1'-0"

24x36 SCALE: 1/16" = 1'-0"

mobilitie

PROJECT NO:	9MAB000091
-------------	------------

DRAWN BY: RC

CHECKED BY: SJB

A	06-03-16	FOR CLIENT REVIEW
---	----------	-------------------

KMB DESIGN GROUP, LLC

Stephen A. Bray
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16

IT IS A VIOLATION OF THE LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION OF
A LICENSED PROFESSIONAL ENGINEER, TO ALTER
THIS DOCUMENT

CT90XS543B

ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060

UTILITY POLE

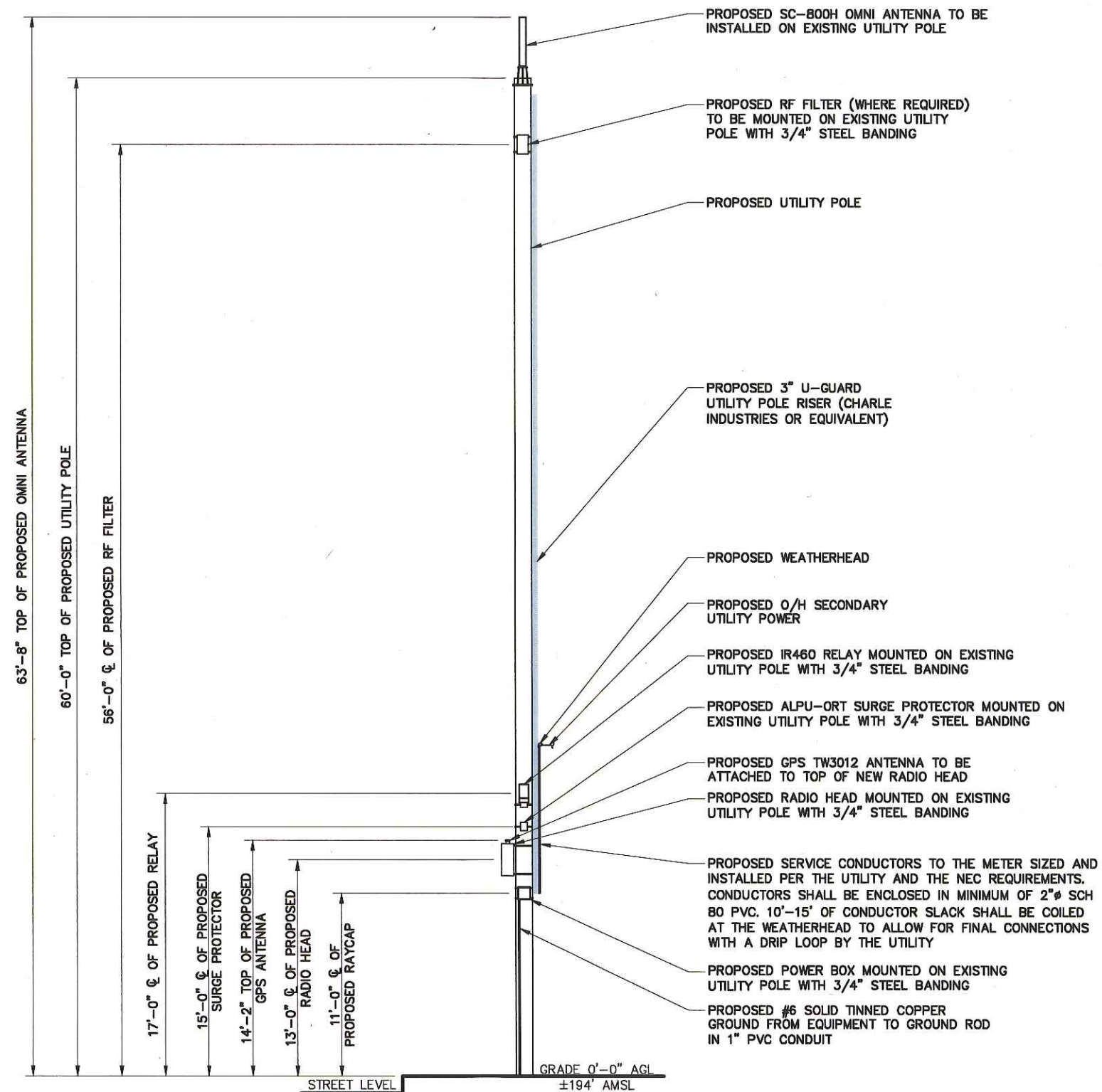
SHEET TITLE

SITE PLAN & EXHIBIT PHOTO

SHEET NUMBER

1.0

NOTE:
KMB DESIGN GROUP, LLC HAS NOT PERFORMED A FULL
STRUCTURAL ANALYSIS ON THE POLE AND MOUNTS AS
PART OF THIS SUBMITTAL. STRUCTURAL ANALYSIS
REPORT TO BE PROVIDED UNDER SEPARATE COVER AND
OBTAINED BY CONTRACTOR PRIOR TO CONSTRUCTION.

**mobilitie**

PROJECT NO: 9MAB000091

DRAWN BY: RC

CHECKED BY: SJB

A	06-03-18	FOR CLIENT REVIEW
---	----------	-------------------

KMB DESIGN GROUP, LLC

Stephen A. Bray
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16

IT IS A VIOLATION OF THE LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION OF
A LICENSED PROFESSIONAL ENGINEER, TO ALTER
THIS DOCUMENT

CT90XS543B

ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060

UTILITY POLE

SHEET TITLE

POLE ELEVATION

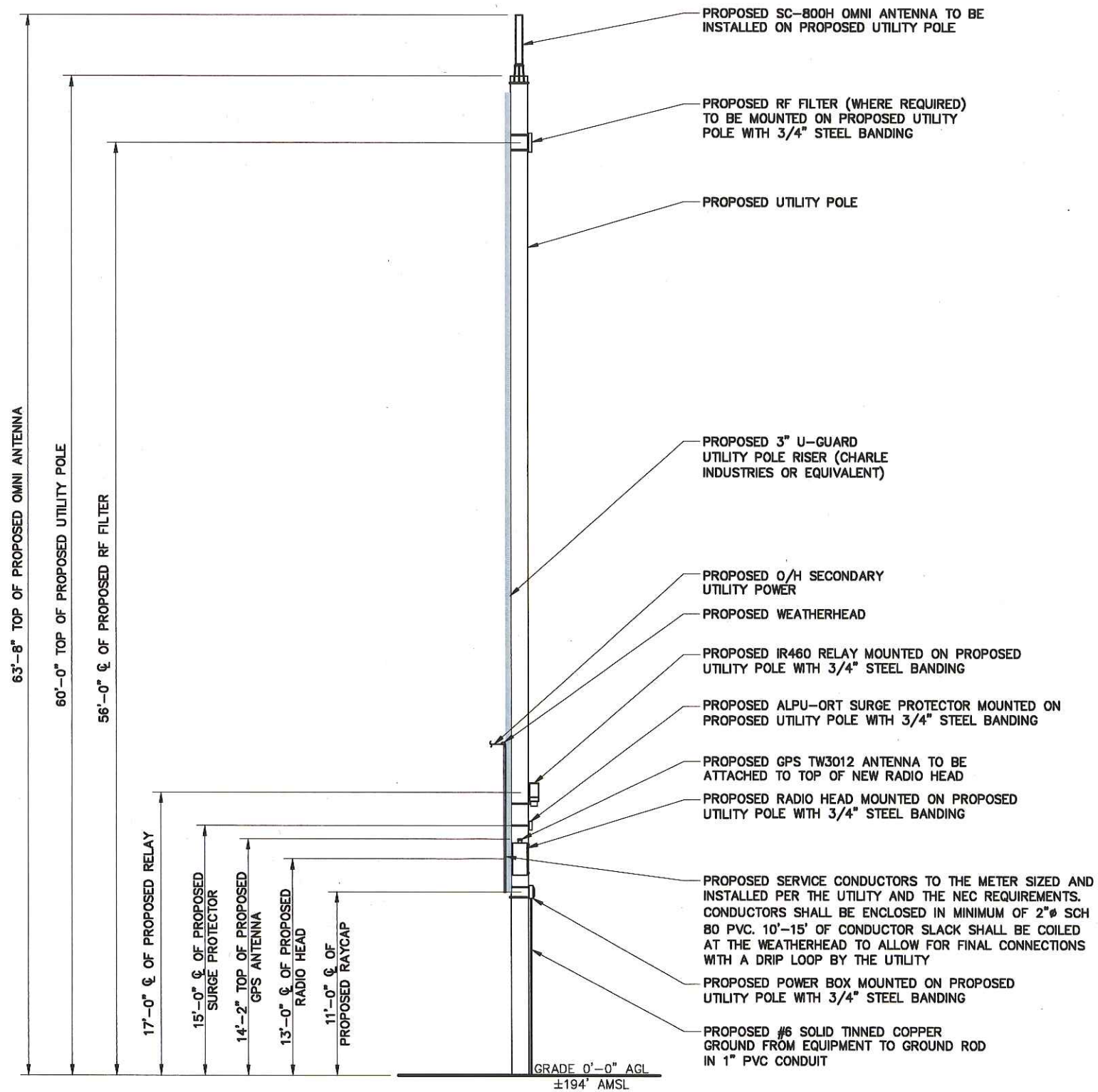
SHEET NUMBER

2.0

1	WEST ELEVATION
---	----------------

11x17 SCALE: 1/8" = 1'-0"	24x36 SCALE: 1/4" = 1'-0"
---------------------------	---------------------------

NOTE:
KMB DESIGN GROUP, LLC HAS NOT PERFORMED A FULL
STRUCTURAL ANALYSIS ON THE POLE AND MOUNTS AS
PART OF THIS SUBMITTAL. STRUCTURAL ANALYSIS
REPORT TO BE PROVIDED UNDER SEPARATE COVER AND
OBTAINED BY CONTRACTOR PRIOR TO CONSTRUCTION.



mobilitie

PROJECT NO: 9MAB000091
DRAWN BY: RC
CHECKED BY: SJB

A 06-03-16 FOR CLIENT REVIEW

KMB DESIGN GROUP, LLC

Stephen A. Bray
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16
IT IS A VIOLATION OF THE LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION OF
A LICENSED PROFESSIONAL ENGINEER, TO ALTER
THIS DOCUMENT

CT90XS543B

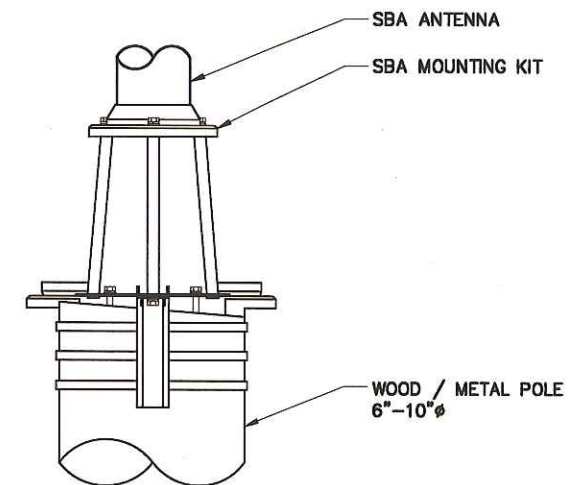
ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060
UTILITY POLE

SHEET TITLE
POLE ELEVATION

SHEET NUMBER
2.1

1 NORTH ELEVATION

11x17 SCALE: 1/8" = 1'-0" 24x36 SCALE: 1/4" = 1'-0"



2 ANTENNA MOUNTING DETAIL

SCALE: NTS



A	06-03-16	FOR CLIENT REVIEW
---	----------	-------------------

Stephen A. Bray
PROFESSIONAL ENGINEER

MA LICENSE: 47770 6/3/16

IT IS A VIOLATION OF THE LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION OF
A LICENSED PROFESSIONAL ENGINEER, TO ALTER
THIS DOCUMENT

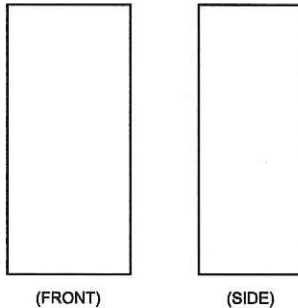

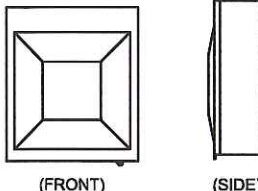
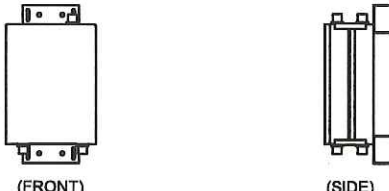
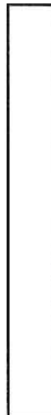

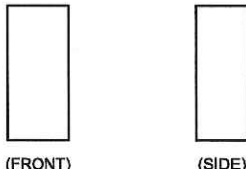
ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060

SHEET TITLE

SHEET NUMBER

3.0

SCALE: NTS

<div>AH4000 RADIO HEAD 20.1" x 9.1" x 8.9", ±55.1 lbs</div> <div><div>(FRONT)(SIDE)</div></div>		<div>TW3012 GPS ANTENNA 0.8" x 2.6"Ø, ±0.3 lbs</div> <div><div>(PLAN)(FRONT)</div></div>		<div>RSTAC-3112-P-120 AC POWER PANEL 9.25" x 9.50" x 3.81</div> <div><div>(FRONT)(SIDE)</div></div>		<div>FIMBW2593S-1C RF FILTER 13.6" x 8.1" x 2.4 ±7.7 lbs</div> <div><div>(FRONT)(SIDE)</div></div>	
1	EQUIPMENT SPECIFICATIONS	2	EQUIPMENT SPECIFICATIONS	3	EQUIPMENT SPECIFICATIONS	4	EQUIPMENT SPECIFICATIONS
SCALE: NTS		SCALE: NTS		SCALE: NTS		SCALE: NTS	
<div>SC-800 2.5 OMNI ANTENNA 35.4" x 4.7"Ø, ±11 lbs</div> <div><div>(FRONT)</div></div>		<div>IRELAY 460 BACKHAUL ANTENNA 13.0" x 7.9"Ø, ±9.9 lbs</div> <div></div>		<div>ALPU-ORT SURGE PROTECTOR 6.1" x 4.5" x 2.5"</div> <div><div>(FRONT)(SIDE)</div></div>			
5	ANTENNA SPECIFICATIONS	6	EQUIPMENT SPECIFICATIONS	7	EQUIPMENT SPECIFICATIONS		
SCALE: NTS		SCALE: NTS		SCALE: NTS			

UTILITY NOTES

WORK INCLUDES:

- THESE NOTES AND ACCOMPANYING DRAWINGS COMPLEMENT THE PROVISIONS AND INSTALLATIONS BY THE ELECTRICAL CONTRACTOR, OF ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL THE ELECTRICAL WORK COMPLETE IN CONNECTION WITH THIS UTILITY SITE AND SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
1. THE PROVISIONS, INSTALLATION AND CONNECTION OF A GROUNDING ELECTRODE SYSTEM COMPLETE WITH SECONDARY GROUNDING, AND CONNECTIONS TO THE INCOMING ELECTRICAL DISTRIBUTION EQUIPMENT.
 2. THE PROVISION AND INSTALLATION OF AN OVERHEAD ELECTRICAL SERVICE OR UNDERGROUND ELECTRICAL SERVICE AND ALL ASSOCIATED WIRE AND CONDUIT AS REQUIRED AND/OR INDICATED ON PLANS.
 3. THE PROVISION AND INSTALLATION OF CONDUIT AND CONNECTIONS FOR LOCAL FIBER SERVICE.
 4. THE FURNISHING AND INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE CONDUCTORS, CONDUITS, METER SOCKET, AND CONNECTIONS TO THE SERVICE EQUIPMENT.
 5. ALL CONDUITS SHOULD BE LEFT WITH NYLON PULL CORD FOR FUTURE USE.
 6. EXCAVATION, TRENCHING, AND BACKFILLING FOR CONDUIT(S), CABLE(S) AND EXTERNAL GROUNDING SYSTEM.

CODES, PERMITS AND FEES:

1. ALL REQUIRED PERMITS, LICENSES, INSPECTIONS AND APPROVALS SHALL BE SECURED AND ALL FEES FOR SAME PAID BY CONTRACTOR.
2. THE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES: STATE, LOCAL AND NATIONAL AND THE DESIGN, PERFORMANCE CHARACTERISTICS AND METHODS OF CONSTRUCTION OF ALL ITEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE VARIOUS APPLICABLE STANDARD SPECIFICATIONS OF THE FOLLOWING AUTHORITIES:
 - N.E.C. NATIONAL ELECTRICAL CODE
 - A.N.S.I. AMERICAN NATIONAL STANDARDS INSTITUTE
 - I.E.E.E. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
 - A.S.T.M. AMERICAN SOCIETY FOR TESTING MATERIALS
 - N.E.M.A. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
 - U.L. UNDERWRITERS LABORATORIES, INC.
 - N.F.P.A. NATIONAL FIRE PROTECTION ASSOCIATION

RACEWAYS AND WIRING:

1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ARCHITECT/ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING. PROVIDE JUNCTION AND PULLBOXES FOR CONDUIT RUNS WITH MORE THAN (360) DEGREES OF BENDS.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
6. ALL STEEL CONDUIT SHALL BE BONDED AT BOTH ENDS WITH GROUNDING BUSHING.

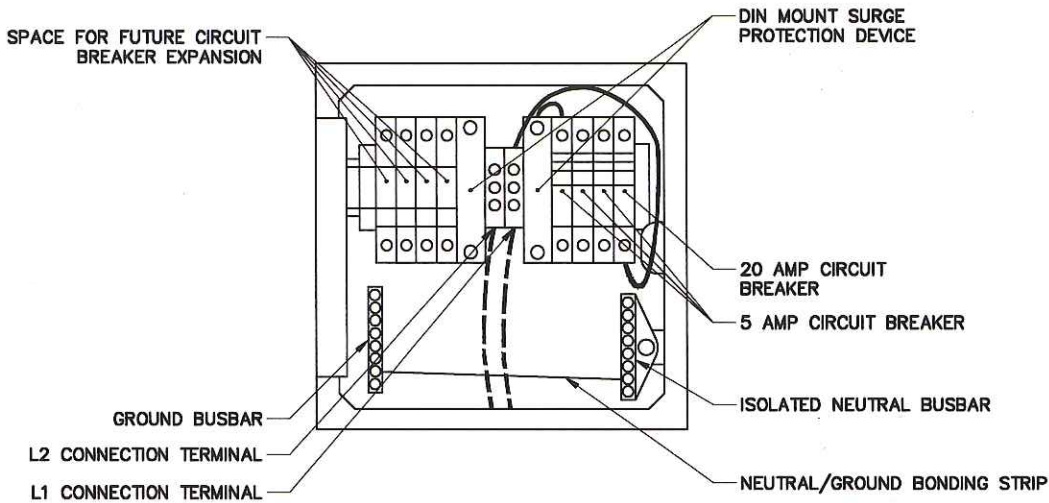
GENERAL NOTES:

SEE DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ARCHITECTURAL, STRUCTURAL, AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, COORDINATION, AND ADDITIONAL INFORMATION, ETC. REPORT ANY DISCREPANCIES, CONFLICTS, ETC. TO ARCHITECT/ENGINEER BEFORE SUBMITTING BID. ALL EQUIPMENT FURNISHED BY OTHERS (FBO) SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WIRE DIAGRAM AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

COORDINATION WITH UTILITY COMPANY:

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANY FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS, IF REQUIRED, METER SOCKETS, PRIMARY CABLE RACEWAY REQUIREMENTS, SECONDARY SERVICE, ETC. PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BID ANY OPTIONAL OR EXCESS FACILITY CHARGES ASSOCIATED WITH PROVIDING ELECTRICAL SERVICE FROM LOCAL UTILITY COMPANY. VERIFY BEFORE BIDDING TO INCLUDE ALL COSTS. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY PRIOR TO SUBMITTING BID. ADJUST A.I.C. RATINGS OF ALL OVER CURRENT PROTECTION DEVICES IN DISTRIBUTION EQUIPMENT AS REQUIRED TO COORDINATE WITH AVAILABLE FAULT CURRENT FROM LOCAL UTILITY COMPANY.

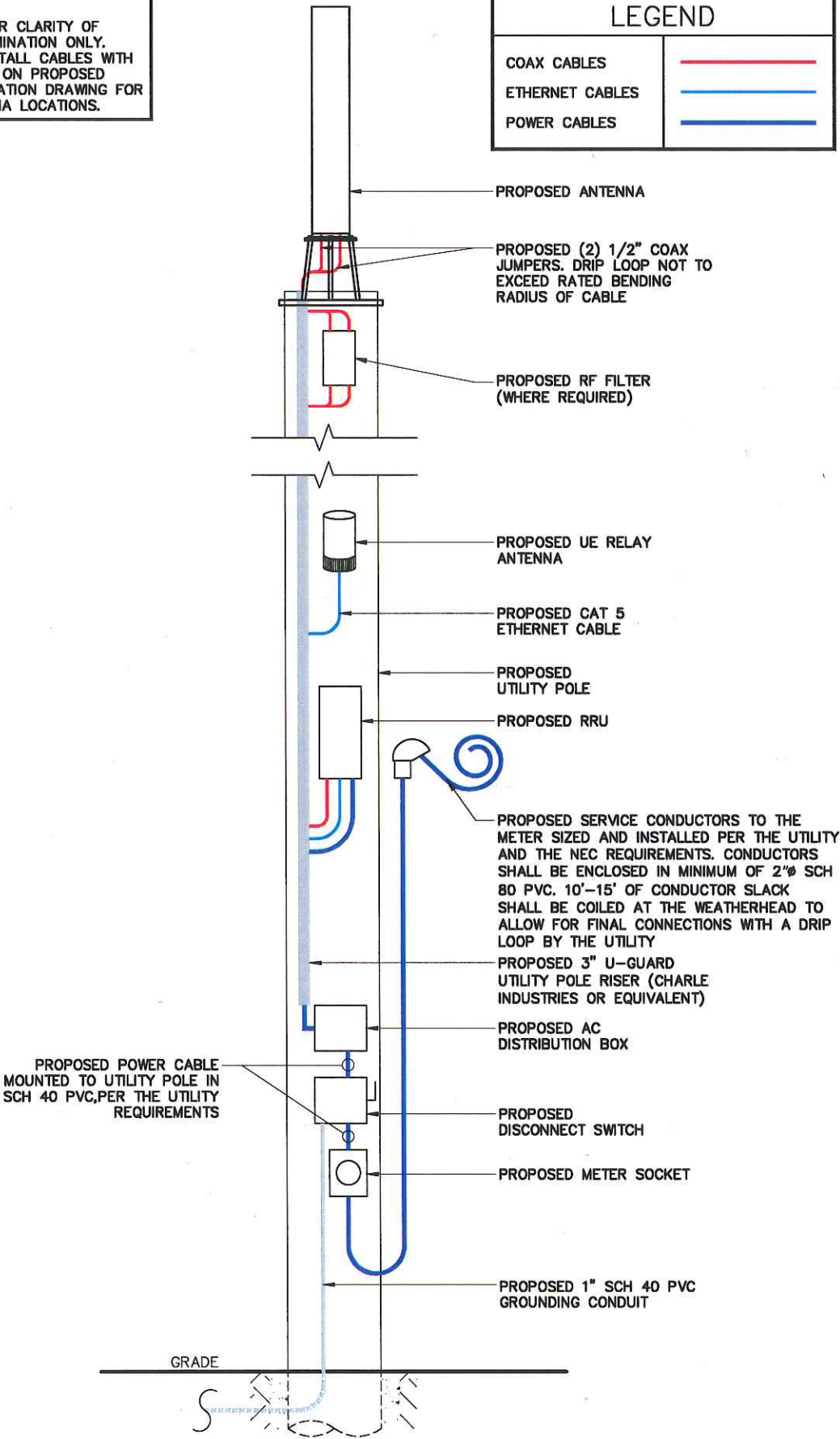
1 NOTES



2 AC DISTRIBUTION PANEL

SCALE: NTS

NOTE:
CABLING DIAGRAM IS FOR CLARITY OF CABLE ROUTE AND TERMINATION ONLY. CONTRACTOR SHALL INSTALL CABLES WITH MINIMAL VISUAL IMPACT ON PROPOSED UTILITY POLE. SEE ELEVATION DRAWING FOR EQUIPMENT AND ANTENNA LOCATIONS.



3 CABLE DIAGRAM

SCALE: NTS

LEGEND

COAX CABLES	
ETHERNET CABLES	
POWER CABLES	

mobilitie

PROJECT NO: 9MAB000091
DRAWN BY: RC
CHECKED BY: SJB

KMB DESIGN GROUP, LLC

Stephen A. Bray
PROFESSIONAL ENGINEER

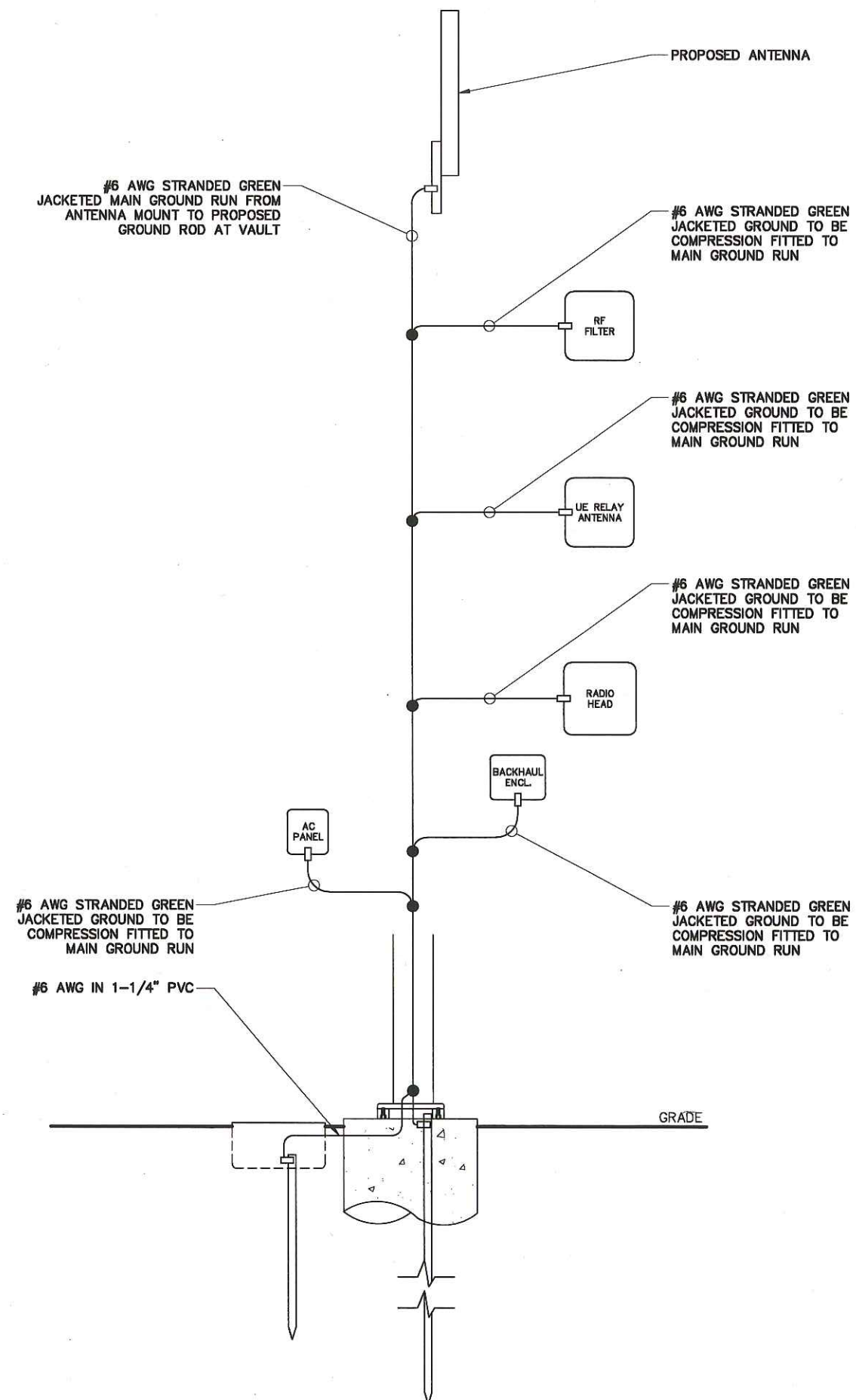
PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16
IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

CT90XS543B
ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060
UTILITY POLE

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
4.0



NOTE:
GROUNDING RISER FOR DIAGRAMMATIC
PURPOSES ONLY. SEE ELEVATION DRAWING
FOR EQUIPMENT AND ANTENNA LOCATIONS.

LEGEND

- CADWELD CONNECTION
- MECHANICAL CONNECTION
- COMPRESSION CONNECTION

NOTE:
GROUNDING RISER FOR DIAGRAMMATIC
PURPOSES ONLY. SEE ELEVATION DRAWING
FOR EQUIPMENT AND ANTENNA LOCATIONS.

mobilitie

PROJECT NO:	9MAB000091
DRAWN BY:	RC
CHECKED BY:	SJB

A	06-03-16	FOR CLIENT REVIEW

KMB DESIGN GROUP, LLC

Stephen A. Bray

PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16

IT IS A VIOLATION OF THE LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION OF
A LICENSED PROFESSIONAL ENGINEER, TO ALTER
THIS DOCUMENT

CT90XS543B

ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060

UTILITY POLE

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

5.0

TRAFFIC CONTROL NOTES

1. PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE.
2. TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, BARRICADES, ETC. SHALL BE PLACED AS SHOWN ON PLANS. SIGNS SHALL NOT BE PLACED WITHOUT ACTUAL LANE CLOSURES AND SHALL BE IMMEDIATELY REMOVED UPON REMOVAL OF THE CLOSURES.
3. FENCING & GATES SUBJECT TO ADJUSTMENTS DURING CONSTRUCTION.
4. SELECTION, PLACEMENT, MAINTENANCE, AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART VI "STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS", AND THE STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS, AND SHALL BE APPROVED BY THE APPROPRIATE HIGHWAY AUTHORITY HAVING JURISDICTION.
5. TAPERS SHALL BE LOCATED TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.
6. ADVANCE WARNING SIGNS, DISTANCES, AND TAPER LENGTHS MAY BE EXTENDED, AT DIRECTION OF THE ENGINEER, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
7. ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS AND/OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE COVERED, REMOVED, OR RELOCATED AS DIRECTED BY THE ENGINEER AND THEN RESTORE TO MATCH PRE-CONSTRUCTION CONDITIONS.
8. CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON EITHER THE EXISTING, TEMPORARY, OR PROPOSED TRAFFIC SIGNAL SYSTEMS SHALL BE BAGGED OR COVERED.
9. CONTRACTOR SHALL CONTACT LOCAL APPLICABLE HIGHWAY JURISDICTION AND PROVIDE ADDITIONAL "FLAGMEN" OR POLICE SUPERVISION AS THEY DEEM APPROPRIATE.
10. ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY SHALL BE BACKFILLED AND PLACED ON A MINIMUM 6H:1V SLOPE PRIOR TO THE END OF EACH WORK DAY. OTHER EXCAVATED AREAS WITHIN THE CLEAR ZONE ARE TO BE EITHER BACKFILLED OR PRECAST CONCRETE CURB CONSTRUCTION BARRIER SET TEMPORARILY IN PLACE TO SHIELD VEHICULAR AND PEDESTRIAN TRAFFIC.
11. WHERE REQUIRED, THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AND TYPE, IN ACCORDANCE WITH ALL APPLICABLE CODES AND OSHA REQUIREMENTS.
12. CONSTRUCTION ZONE SPEED LIMIT WILL BE DETERMINED BY THE REGIONAL TRAFFIC ENGINEER AT THE TIME OF OR DURING CONSTRUCTION, AS REQUESTED BY THE RESIDENT ENGINEER.
13. BITUMINOUS CONCRETE PLACED DURING THE VARIOUS CONSTRUCTION STAGES SHALL BE TRANSITIONED ON A MINIMUM 20H:1V SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL AND TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION AREAS UNLESS OTHERWISE NOTED ON THE STAGE CONSTRUCTION PLANS.
14. ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY SHALL BE BACKFILLED AND PLACED ON AT LEAST 6H:1V SLOPE BEFORE THE END OF EACH WORK DAY. OTHER EXCAVATED AREA WITHIN THE CLEAR ZONE SHALL BE BACKFILLED.
15. CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON THE APPROVAL OF THE ENGINEER.
16. THERE SHALL BE NO WORKERS, EQUIPMENT, OR OTHER VEHICLES IN THE BUFFER SPACE OR THE ROLL AHEAD SPACE.
17. DRIVEWAYS AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN SHALL BE PROVIDED WITH AT LEAST ONE WZO-IF SIGN (ROAD WORK AHEAD) AS A MINIMUM.
18. MOVING WORK AREAS IN A LANE CLOSURE REQUIRE A TRAILER MOUNTED ILLUMINATED FLASHING ARROW TO REMAIN AT THE END OF THE TAPER, THE TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION THAT SHALL MOVE WITH THE WORK AREAS TO KEEP A 70 FOOT MAX BUFFER IN ADVANCE OF EACH WORK AREA.

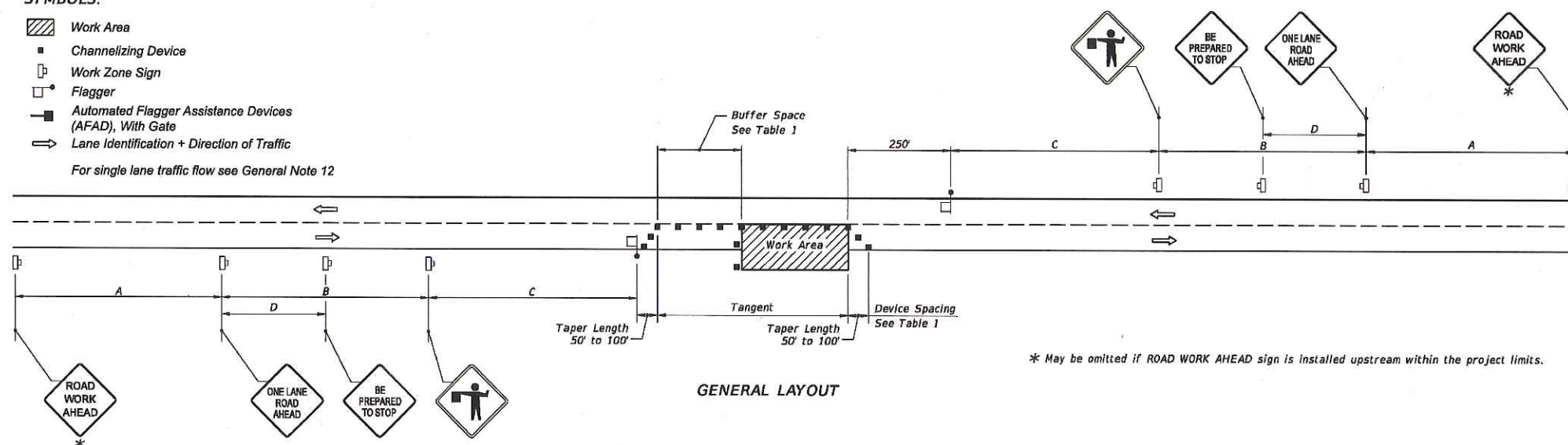
1 TRAFFIC CONTROL NOTES

SCALE: NTS

SYMBOLS:

- Work Area
- Channelizing Device
- Work Zone Sign
- Flagger
- Automated Flagger Assistance Devices (AFAD), With Gate
- Lane Identification + Direction of Traffic

For single lane traffic flow see General Note 12



GENERAL LAYOUT

General Notes:

1. Special Conditions may be required in accordance with these notes and the following sheets.
2. If the Work Area encroaches on the Centerline, use the Layout for Temporary Lane Shift to Shoulder on Sheet 2 only if the Existing Paved Shoulder width is sufficient to provide for an 11' lane between the Work Area and the Edge of Existing Paved Shoulder. Reduce the posted speed when appropriate.
3. Temporary Raised Rumble Strips:
 - a. Use when both of the following conditions are met concurrently:
 - i. Existing Posted Speed is 50 mph or greater;
 - ii. Work duration is greater than 60 minutes.
 - b. Use a consistent Strip color throughout the work zone.
 - c. Place each Rumble Strip Set transversely across the lane at locations shown.
 - d. Use Option 1 or Option 2 as shown on Sheet 2. Use only one option throughout work zone.
4. Additional one-way control may be provided by the following means:
 - a. Flag-carrying vehicle;
 - b. Official vehicle;
 - c. Pilot vehicles;
 - d. Traffic signals.
7. When Buffer Space cannot be attained due to geometric constraints, use the greatest attainable length, not less than 200 ft.
8. Railroad Crossings:
 - a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.
 - b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.
9. ROAD WORK AHEAD and the BE PREPARED TO STOP signs may be omitted if all of the following conditions are met:
 - a. Work operations are 60 minutes or less.
 - b. Speed limit is 45 mph or less.
 - c. There are no sight obstructions to vehicles approaching the work area for a distance equal to the Buffer Space shown in Table 1.
 - d. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
 - e. Volume and complexity of the roadway has been considered.
 - f. If a railroad crossing is present, vehicles will not queue across rail tracks.
 - g. AFADs are not in use.
10. For general TCZ requirements and additional information, refer to MUTCD.
11. Automated Flagger Assistance Devices (AFADs) may be used in accordance with the Notes on Sheet 3.
12. For single lane traffic flow, the contractor shall utilize the general layout detailed above and shall comply with the local highway authority having jurisdiction to ensure that sufficient clearance is provided to allow vehicles to pass safely. Contractor shall notify the Engineer if a road closure is deemed necessary.

TABLE 1									
Posted Speed	DEVICE SPACING				Distance Between Signs				Buffer Space
	Maximum Spacing of Cones or tubular Markers		Maximum Spacing of Type I or Type II Barricades/Panels/Drums						
	On a Taper	On a Tangent	On a Taper	On a Tangent	A	B	C	D	
	25	20'	50'	20'	50'	200'	200'	200'	
30	20'	50'	20'	50'	200'	200'	200'	100'	200'
35	20'	50'	20'	50'	200'	200'	200'	100'	250'
40	20'	50'	20'	50'	200'	200'	200'	100'	305'
45	20'	50'	20'	50'	350'	350'	350'	175'	360'
50	20'	50'	20'	100'	500'	500'	500'	250'	425'
55	20'	50'	20'	100'	2640'	1500'	1000'	500'	495'
60	20'	50'	20'	100'	2640'	1500'	1000'	500'	570'
65	20'	50'	20'	100'	2640'	1500'	1000'	500'	645'
70	20'	50'	20'	100'	2640'	1500'	1000'	500'	730'
75	20'	50'	20'	100'	2640'	1500'	1000'	500'	820'

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA BETWEEN THE CENTERLINE AND A LINE 2' OUTSIDE THE EDGE OF TRAVEL WAY.

mobilitie

PROJECT NO: 9MAB000091

DRAWN BY: RC

CHECKED BY: SJB

A 06-03-16 FOR CLIENT REVIEW

KMB DESIGN GROUP, LLC

Stephen A. Bray
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

CT90XS543B

ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060
UTILITY POLE

SHEET TITLE

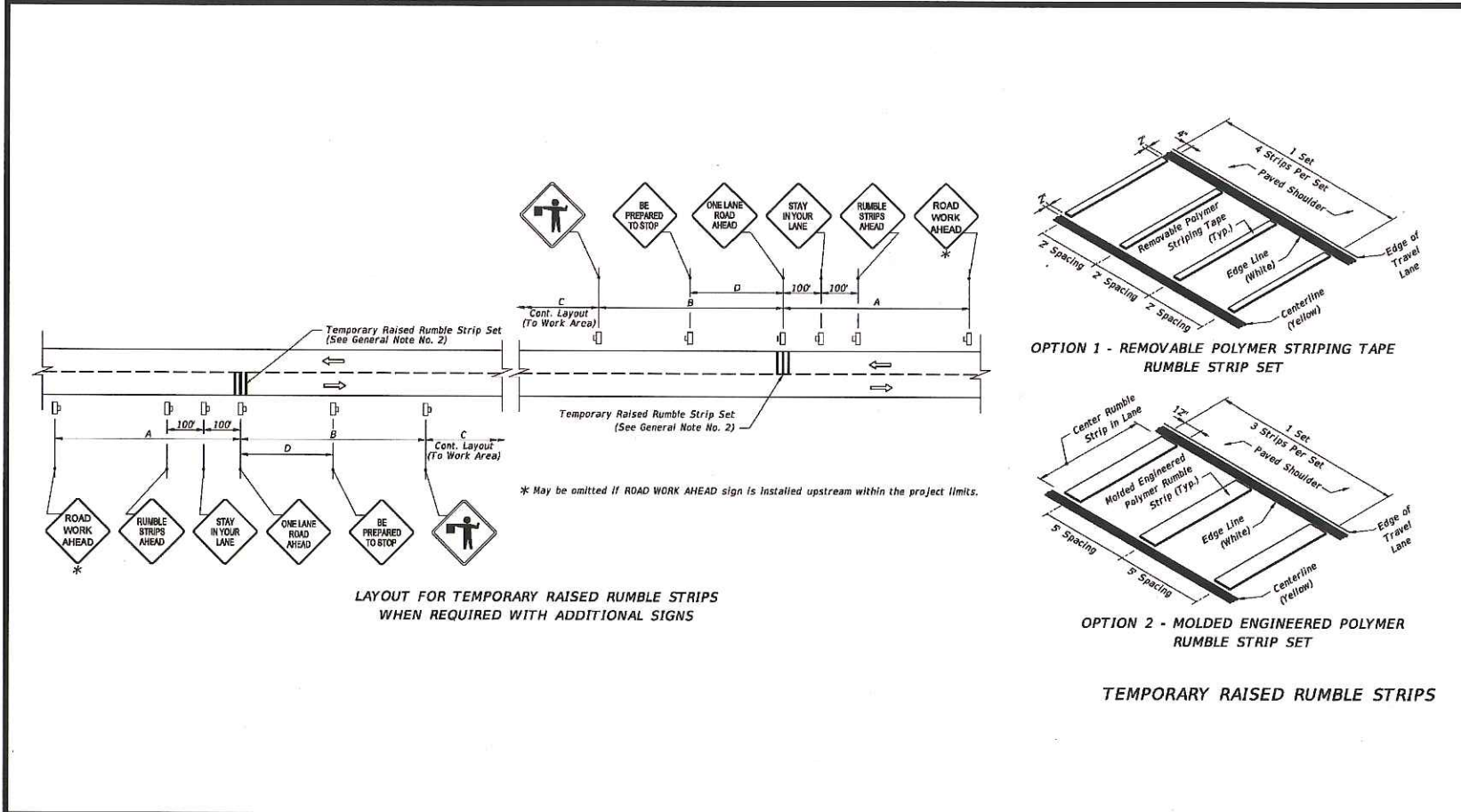
TRAFFIC CONTROL PLAN

SHEET NUMBER

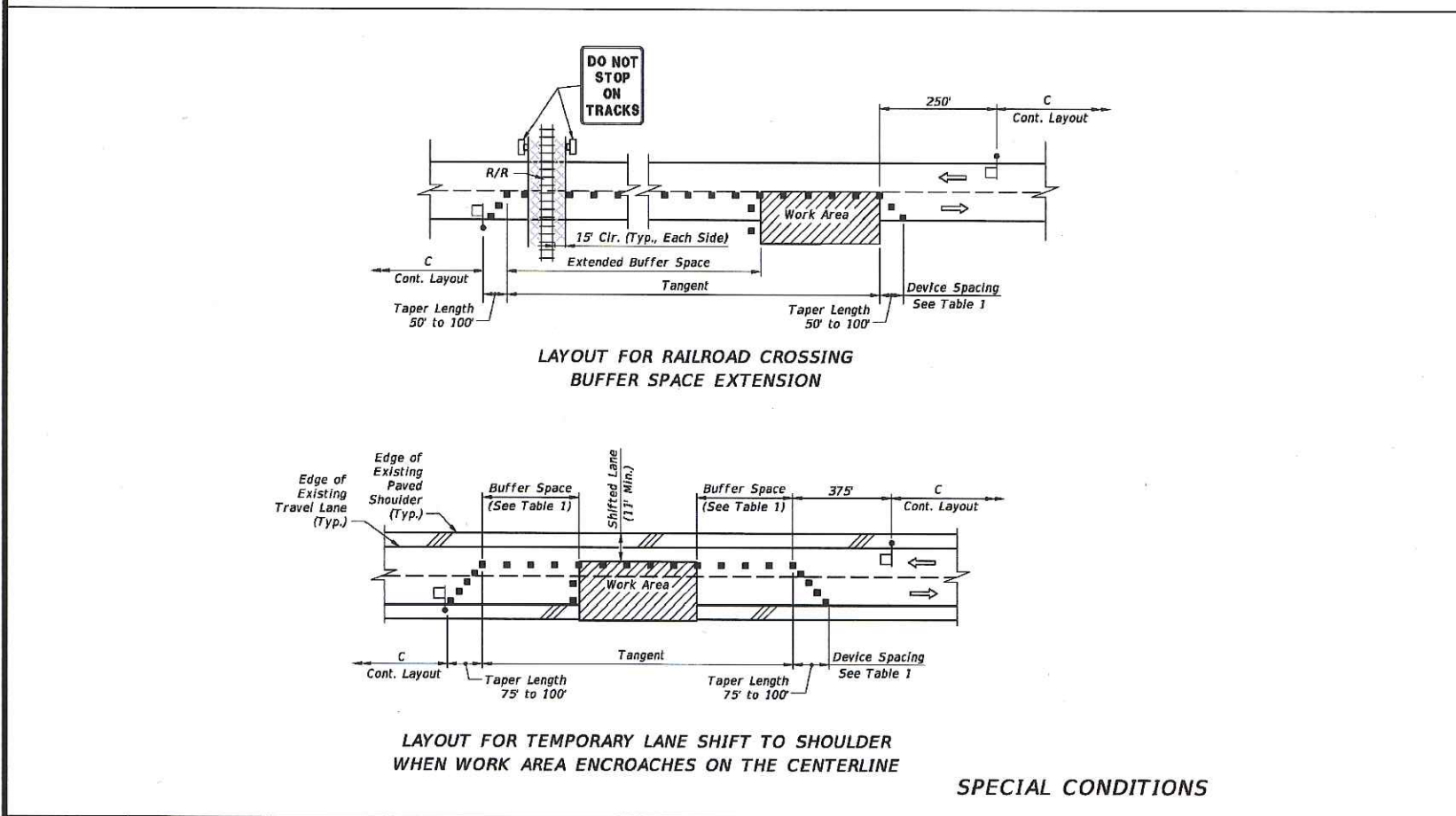
6.1

2 TWO LANE, TWO WAY, WORK WITHIN THE TRAVEL WAY

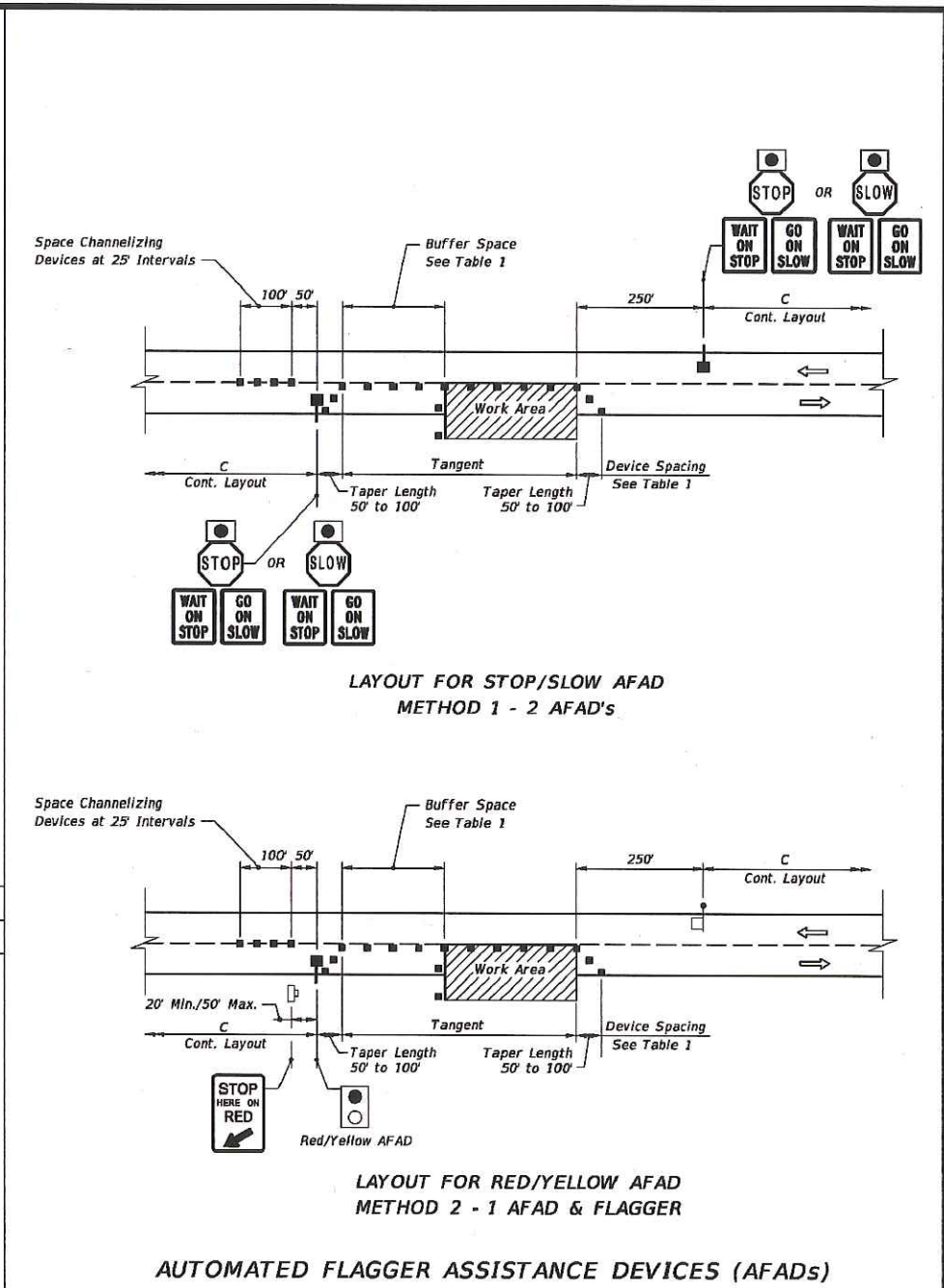
SCALE: NTS



1 TEMPORARY RAISED RUMBLE STRIPS
SCALE: NTS



2 SPECIAL CONDITIONS
SCALE: NTS



AUTOMATED FLAGGER ASSISTANCE DEVICES NOTES

1. Illuminate the flagging station when the AFAD is used at nighttime.
2. When the AFAD is not in use, remove or cover signs and move AFAD device outside the clear zone or shield it with a barrier or crash cushion.
3. Only qualified flaggers who have been trained in the operation of the AFAD may operate the AFAD. When in use, each AFAD must be in view of and attended at all times by the flagger operating the device. Use two flaggers and one of the following methods in the deployment of AFAD's:
Method 1: Place an AFAD at each end of the temporary traffic control zone.
Method 2: Place an AFAD at one end of the temporary traffic control zone and a flagger at the opposite end.
4. A single flagger may simultaneously operate two AFAD's (Method 1) or may operate a single AFAD on one end of the temporary traffic control zone while being the flagger at the opposite end of the temporary traffic control zone (Method 2) if all four of the following conditions are present:
a. The flagger has an unobstructed view of the AFAD(s);
b. The flagger has an unobstructed view of approaching traffic in both directions;
c. For Method 1, the AFAD's are less than 800 ft apart. For Method 2, the AFAD and the flagger are less than 800 ft apart.
d. Two trained flaggers are available on-site to provide normal flagging operations should an AFAD malfunction.

3 AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADs)
SCALE: NTS

PROJECT NO: 9MAB000091

DRAWN BY: RC

CHECKED BY: SJB

A 06-03-16 FOR CLIENT REVIEW

KMB DESIGN GROUP, LLC

Stephen A. Bray

PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

CT90XS543B

ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060

UTILITY POLE

SHEET TITLE

TRAFFIC CONTROL PLAN

SHEET NUMBER

6.2

PROJECT NO: 9MAB000091
DRAWN BY: RC
CHECKED BY: SJB

A 06-03-16 FOR CLIENT REVIEW

KMB DESIGN GROUP, LLC

Stephen A. Bray
PROFESSIONAL ENGINEER

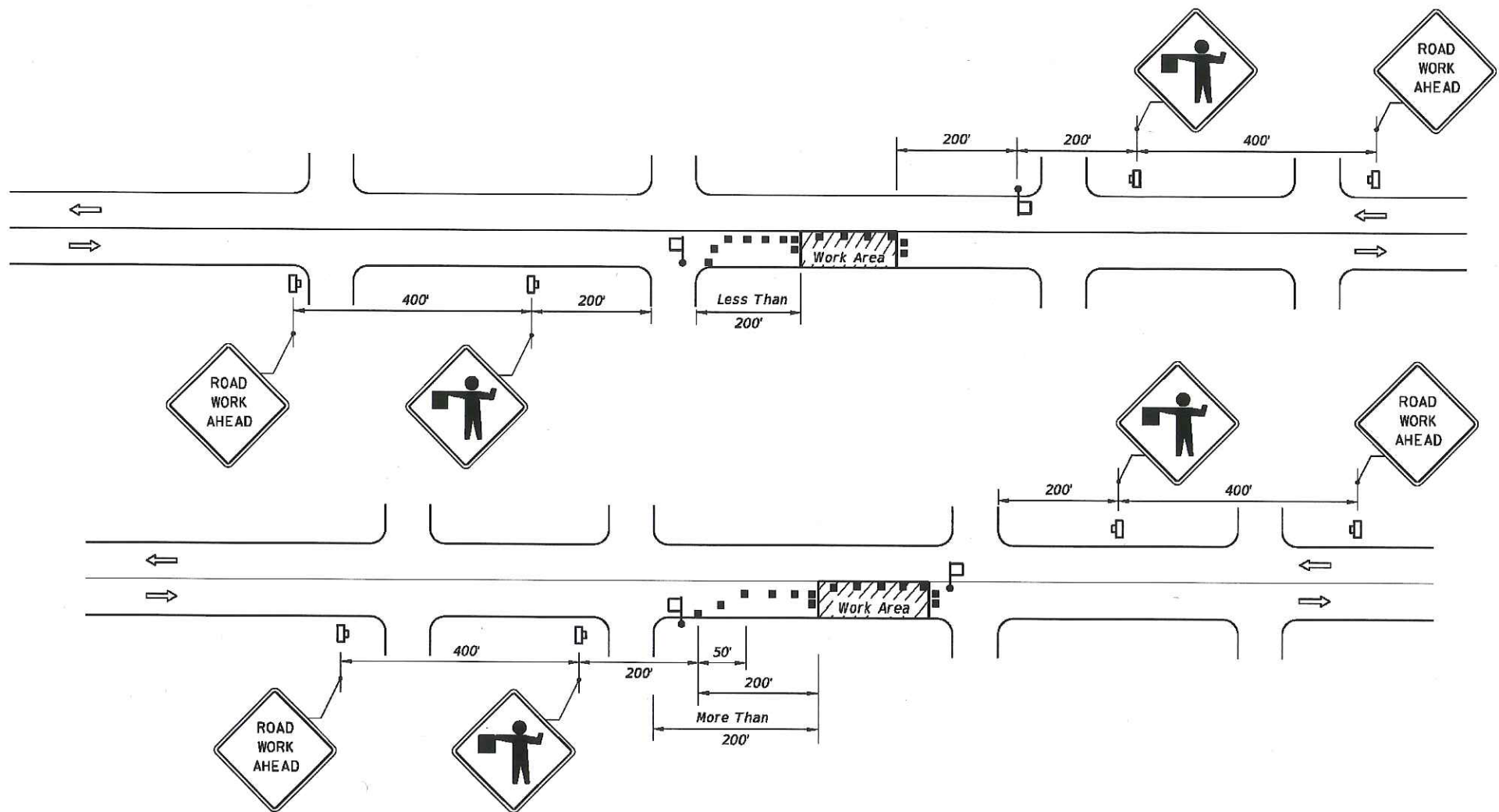
PRELIMINARY
NOT FOR CONSTRUCTION

MA LICENSE: 47770 6/3/16
IT IS A VIOLATION OF THE LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION OF
A LICENSED PROFESSIONAL ENGINEER, TO ALTER
THIS DOCUMENT

CT90XS543B
ELM ST & HENSHAW AVE
NORTHAMPTON, MA 01060
UTILITY POLE

SHEET TITLE
TRAFFIC CONTROL PLAN

SHEET NUMBER
6.3



CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS
OR THEIR ACTIVITIES ENCROACH ON THE
PAVEMENT REQUIRING THE CLOSURE OF ONE
TRAFFIC LANE, FOR WORK AREAS LESS THAN
200' DOWNSTREAM FROM AN INTERSECTION
FOR A PERIOD OF MORE THAN 60 MINUTES.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS
OR THEIR ACTIVITIES ENCROACH ON THE
PAVEMENT REQUIRING THE CLOSURE OF ONE
TRAFFIC LANE, FOR WORK AREAS 200' OR
MORE DOWNSTREAM FROM AN INTERSECTION
FOR A PERIOD OF MORE THAN 60 MINUTES.

DURATION NOTES

1. ROAD WORK AHEAD sign may be omitted if all of the following
conditions are met:

- Work operations are 60 minutes or less.
- Speed is 45 mph or less.
- No sight obstructions to vehicles approaching the work
area for a distance of 600 feet.
- Vehicles in the work area have high-intensity, rotating,
flashing, oscillating, or strobe lights operating.
- Volume and complexity of the roadway has been considered.

GENERAL NOTES

- Work operations shall be confined to one travel lane, leaving the opposing travel
lane open to traffic.
- When vehicles in a parking zone block the line of sight to TCZ signs or when TCZ
signs encroach on a normal pedestrian walkway, the signs shall be post mounted
and located in accordance with MUTCD.
- If work area is confined to an outside auxiliary lane, the work area shall be
barricaded and the FLAGGER signs replaced by ROAD WORK AHEAD signs.
Flaggers are not required.
- Flaggers shall be in sight of each other or in direct communication at all times.
- The FLAGGER legend sign may be substituted for the symbol sign.
- The maximum spacing between devices shall be no greater than 25'.
- For general TCZ requirements and additional information, refer to MUTC
- The two channelizing devices directly in front and directly at the end of the
area may be omitted provided vehicles in the work area have high-intensity
flashing, oscillating, or strobe lights operating.
- Use Temporary Raised Rumble Strips in accordance with Index 603. Pl.
of Rumble Strips and additional signs should begin at FLAGGER sign loca

SYMBOLS

- Work Area
- Channelizing Device
- Work Zone Sign
- Flagger
- Lane Identification + Direction of Traffic